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GROUP 3600

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 09/431,365
Filing Date: November 01, 1999
Appellant(s): DEMARCKEN, CARL G

Denis G. Maloney, Reg. No. 29,670
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/15/2005 appealing from the Office action

mailed 7/15/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,295,521   DEMARCKEN   9-2001

6,442,537   KARCH   8-2002

6,360,205   IYENGAR et al   3-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

(A)   Claims 1-4, 6-8,27-28,54, and 56-58 are rejected under 35 U.S.C. 103(a) as

being unpatentable over DeMarcken et al (USPN 6,295,521-referred to hereinafter as

DeMarcken '521) in view of Karch (USPN 6,442,537).

As per claims 1 and 2, DeMarcken'521 teaches a travel planning system comprising:

- a requirements generator module to generate a set of diverse travel requirements

  by establishing a plurality of travel requirement rule for each travel requirement (col.

  50, lines 11-20) and for each travel requirement rule, defining a plurality of travel

  requirements corresponding to different values of travel requirements (col. 51, lines

  20-43; col. 60, lines 56-col. 61, line 65)

- a selection module to output a set of diverse travel options, the number of travel

  options in the diverse travel options being fewer in number than the candidate set of

travel options (col. 60, lines 56-col. 61, line 65) and selecting from the candidate set

of travel options, for each diverse travel requirement in the plurality of diverse travel

requirements, one or more travel options that satisfy that travel requirement, and

wherein the candidate set of travel options is represented using a data structure that

compactly stores the candidate set of travel options as a graph data structure (col. 4,

lines 43-63; col. 5, line 25-col. 6, line 27;col. 45, lines 23-28)

DeMarcken teaches the use of travel requirements rules (DeMarcken; col. 3, line

55-col. 4, line 62) but fails to expressly teach defining a template of rules.

However, this feature is old and well known in the art, as evidenced by Karch's

teachings wherein the rules are based at least in part on templates (Karch: col. 1, line

66-co1. 2, line 6). At the time of the Appellant's invention it would have been obvious

to one of ordinary skill in art to modify the system of DeMarcken with the teaching of

Karch to include the feature of generating rule templates (e.g. for travel requirements).

As suggested by Karch, one would have been motivated to include this feature to

provide an efficient rules system that can learn and manipulate information, but does

not result in significant degradation of performance through the use of extensive

amounts processing power (Karch; col. 1, lines 38-42).

As per the limitations of claim 3, see DeMarcken'521: col. 4, lines 14-41.

As per claim 4, DeMarcken'521 teaches a travel planning system further

comprising:

- a travel option generator module to generate a first ordered set of travel options

  using a first preference function and a second ordered set of travel options using a

  second preference function, and (col. 5, line 26-col. 6, line 6)

- wherein the selection module to output a set of diverse travel options by selecting a

  first and second number of travel options from each of the first and second ordered

  set of travel options. (col. 4, lines 43-col. 5, line 25; col. 49, line 30-col. 50, line 39;

  Figure 3)

As per claim 6, DeMarcken'521 teaches the travel planning system of claim 1

wherein at least one of the travel requirements within the plurality is not a user entered

travel requirement. (col. 4, lines 1-14)

As per claims 7 and 8, DeMarcken'521 teaches the travel planning system of

claim 1 wherein diverse travel requirements comprise at least one of: trips on a

particular carrier, non-stop travel, outbound travel departing in a predefined time period

(e.g. morning, afternoon, evening or a predefined date), return trips departing in a

predefined time period, non-stop travel on a predefined airline, or travel with an

outbound departure on a first predefined date and a return arrival on a second

predefined date. (col. 17,line 20-col. 19, line 32)

As per claim 27, DeMarcken'521 teaches the travel planning system of claim 1

wherein the compact data structure comprises a directed acyclic graph. (col. 5, line 25-

col. 6, line 27)

As per claim 28, DeMarcken'521 teaches a travel planning system wherein the compact data structure comprises a grammar. (col. 45, lines 23-28)

As per claim 52, DeMarcken teaches a method for generating a diverse set of travel options, the method comprising:

- determining a candidate set of travel options, the candidate set of travel options being based on user input and represented using a data structure that compactly stores the candidate set of travel options; (col. 5, line 25-col. 6, line 6)

- generating a diverse set of travel requirements/defining a plurality of travel requirements (col. 51, lines 20-43; col. 60, lines 56-col. 61, line 65)

- selecting from the candidate set of travel options a travel option that satisfies that travel requirement; (col. 3, line 55-col.5, line 35; col. 60, lines 56-col. 61, line 65)

- combining the selected travel options for the travel requirements to generate the diverse set of travel options; and (Table 2; col. 9, line 54-col. 10, line 7; col. 15, lines 54-col. 17, line 19)

- displaying the diverse set of travel options to a user. (col. 60, lines 56-col. 61, line 65)

DeMarcken teaches the use of travel requirements rules (DeMarcken; col. 3, line 55-col. 4, line 62) but fails to expressly teach defining a template of rules.

However, this feature is old and well known in the art, as evidenced by Karch's teachings wherein the rules are based at least in part on templates (Karch: col. 1, line 66-col. 2, line 6). At the time of the Appellant's invention it would have been obvious

to one of ordinary skill in art to modify the method of DeMarcken with the teaching of

Karch to include the feature of generating rule templates (e.g. for travel requirements).

As suggested by Karch, one would have been motivated to include this feature to

provide an efficient rules system that can learn and manipulate information, but does

not result in significant degradation of performance through the use of extensive

amounts processing power (Karch; col. 1, lines 38-42).

As per claims 53, DeMarcken teaches a method for generating travel

requirements (col. 3, line 55-col. 5, line 32) as explained in the rejection of claim 52, but

does not expressly disclose the generation of template rules. However, the

development and customizing a template of rules for a plurality of purposes is old and

well known in the art, as evidenced by Karch. (Karch col. 1, line 66-col. 2, line 6). At

the time of the Appellant's invention it would have been obvious to one of ordinary skill

in art to modify the method of DeMarcken with the teaching of Karch to generate rule

templates wherein values for a particular travel requirement template are based on a

candidate set of travel options. As suggested by Karch, one would have been motivated

to include this feature to provide an efficient rules system that can learn and manipulate

information, but does not result in significant degradation of performance through the

use of extensive amounts processing power (Karch; col. 1, lines 38-42).

As per claim 54, DeMarcken teaches a method for generating travel

requirements (col. 3, line 55-col. 5, line 32), including particular carriers, number of

stops, outbound travel departing in a predefined time period, return travel departing in a

predefined time period, or travel with an outbound departure on a first predefined date

and a return arrival on a second predefined date. (col. 3, lines 43-51; col. 17,line 20-col.

19, line 32). DeMarcken does not expressly disclose the generation of template rules.

However, the development and customizing a template of rules for a plurality of

purposes is old and well known in the art, as evidenced by Karch. (Karch col. 1, line 66-

col. 2, line 6). At the time of the Appellant's invention it would have been obvious to

one of ordinary skill in art to modify the method of DeMarcken with the teaching of

Karch to generate rule templates which include particular travel limitations. (e.g.

particular carriers, number of stops, outbound travel departing in a predefined time

period, return travel departing in a predefined time period, or travel with an outbound

departure on a first predefined date and a return arrival on a second predefined date).

One would have been motivated to include this feature to provide an efficient rules

system that can learn and manipulate information, but does not result in significant

degradation of performance through the use of extensive amounts processing power

(Karch; col. 1, lines 38-42) and to address the specific (e.g. travel) problem being

solved. (Karch: col. 2, lines 14-23)

As per claim 56, the present claim repeats the subject matter of claim 29 as an

article of manufacture encoding the instructions that cause a computer processor to

perform the method of claim 52 rather than as a series of steps. As the underlying

process has been shown to be fully computer enabled and disclosed by the teachings of

DeMarcken'521 in the above rejection of claim 52, it is readily apparent that the

DeMarcken'521 reference includes an article of manufacture encoding the instructions

that cause a computer to perform the recited functions. As such, these limitations are

rejected for the same reasons provided in the rejection of claim 52 and incorporated herein.

The limitations of claim 57 are substantially similar to those of claim 53. As such the limitations of claim 57 are addressed by claims 53 and 56, and incorporated herein.

As per claim 58, the limitations of the present claim are addressed by the rejections of claims 54 and 56, and incorporated herein.

(B)   Claims 55 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken and Karch (USPN 6,442,537), in further view of Iyengar et al (USPN 6,360,205).

As per claim 55, DeMarcken and Karch in combination teach a method including the use of travel requirements templates, as explained in the rejection of claim 54, but do not expressly disclose that that the travel requirement template includes multiple (i.e. a first and second) carriers.   Iyengar teaches a system/method wherein a travel requirements template includes a plurality of carriers. (Figures 6-10; col. 21, lines 10-18) At the time of the Appellant's invention, it would have been obvious to one of ordinary skill in the art to further modify the method of DeMarcken and Karch in combination with the teaching of Iyengar to include a plurality of carriers on the travel requirements template. As suggested by Iyengar, one would have been motivated to include this feature to facilitate consumer access to the best prices (col. 2, lines 49-59) and to allow consumers to make meaningful comparisons among a number of travel service data sources (col. 4, lines 26-35).

As per claim 59, the limitations of the present claim are addressed by the rejection of claims 55 and 56, and incorporated herein.

(10) Response to Argument

(A)   Appellant argues Demarcken does not disclose several features of claim 1, including a requirements generator module and a selection module.

The Appellant argues that the DeMarcken reference not disclose a requirements generator module to generate a set of diverse set of travel requirements and a selection module to generate diverse travel options, and that the Examiner has mischaracterized the reference.

However, within the Appellant's arguments and in the portions cited by the Examiner in the 7/15/05 Final rejection, the Appellant provides citations, which may be broadly and reasonably interpreted as the "the generation of a set of diverse set of travel options" and "the selection of diverse travel options." (col. 50, lines 11-20 of the DeMarcken reference, reproduced on page 9 of Appeal brief). The first passage describes the generation of a pricing graph with several different (i.e. diverse) travel options, and the processing, manipulation and extraction of these solutions in accordance with user requirements (i.e. query criteria).

A second passage from the DeMarcken reference (col. 60, line-col. 61, line 65, reproduced on page 11 of Appeal Brief) describes a process, which allows the user to conduct a search using various parameters (i.e. by computing or not computing fares

and by searching by legs, time and number of itineraries) (col. 61, lines 4-10). Options fitting the selected parameters are displayed and further extraction (i.e. selection) and manipulation of the queried data is permitted (col. 61, lines 10-18; lines 40-49)

The Appellant further argues that the passages cited from the DeMarcken reference do not address the claim limitations because the passages discuss diversity or a plurality of "travel options" instead of the recited "travel requirements."

In response, Examiner must give claim language its broadest reasonable interpretation and apply art accordingly. The Appellant does not point out and the Examiner was unable to find definitions in the claim language or in the specification to clarify the distinction between the terms "travel option" and "travel requirement." Therefore, while Appellant may interpret an item as a "travel option" in the instant invention, it does not preclude the item from being a "travel requirement" in the prior art, and vice versa, as Appellant has provided no definitions within the specification or claims to narrow the interpretations of these terms.

Similarly, the term diverse in the present claims has been given the broadest reasonable interpretation. The Examiner understands the term "diverse" to include any difference in the travel options of the system or input by the user (i.e. time that information was obtained, selected carrier that provides a service, points of origin or destination, numbers of intermediary stops).

(B)   Appellant argues that DeMarcken and Karch combination is improper because

there is no motivation to combine the two references and Karch is non-analogous to the

travel search arts.

In response to Appellant's argument that Karch is nonanalogous art, it has been

held that a prior art reference must either be in the field of Appellant's endeavor or, if

not, then be reasonably pertinent to the particular problem with which the Appellant was

concerned, in order to be relied upon as a basis for rejection of the claimed invention.

See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In this case, the Karch reference has been used to establish the fact that

generating rule-based templates (to process vast amounts of information) is old and

well known in the computer arts. Moreover, the Examiner has cited motivation to

combine the references directly from the secondary reference, as explained in the art

rejections provided in the Final Rejection mailed 7/15/05 and reproduced in the present

Examiner's Answer.

(C)   Appellant argues that the DeMarcken reference does not disclose a travel option

generator to generate a first set of travel options using a first preference function and

second ordered set using a second preference function, as recited in claim 4.

Again, the Appellant apparently argues that the passages cited from the

DeMarcken reference do not address the claim limitations because the passages

discuss "travel options" instead of the recited "travel requirements." However, the

Appellant does not point out definitions in the claim language or in the specification to

clarify the distinction between the terms "travel option" and "travel requirement." Therefore, while Appellant may interpret an item as a "travel option" in the instant invention, it does not preclude the item from being a "travel requirement" in the prior art, and vice versa, as Appellant has provided no definitions within the specification or claims to narrow the interpretations of these terms.

DeMarcken discloses a system wherein enumerated subsets of pricing solutions may be displayed (i.e. generated) based upon selected parameters (col. 5, lines 26-col. 6, line 6) and therefore, addresses the claim limitations.

(D)   Appellant argues that DeMarcken does not disclose system wherein at least one of the travel requirements within the plurality is not a user-entered requirement.

In response, the Appellant argues that the passage cited by the Examiner to address this limitation is improper because it does not meet the "definition" provided the Appellant in claim 1. However, the Examiner respectfully submits that claim 1 provides no such definition. In the absence of such a definition, the Examiner has given the claim language the broadest reasonable interpretation and applied art accordingly.

As such the Examiner interprets the industry standard database information used by the DeMarcken system (col. 4, lines 4-14 of DeMarcken), as addressing the claim limitation.

(E)   Appellant argues that DeMarcken does not disclose several of the limitations of claim 52.

In response, the Appellant's arguments regarding claim 52 are addressed in the

arguments of paragraphs 10(A)-10(C) of the present Action, directed toward claims 1,4,

and 6. As to Appellant's suggestion that DeMarcken does not disclose combining travel

options, DeMarcken discloses combining a plurality of "diverse" travel options meeting

certain travel requirements. (col. 9, line 54-col. 10, line 7).

(F)   Appellant apparently argues that DeMarcken in view of Karch does not disclose

generating particular travel requirement based upon the candidate set of travel options.

In response to Appellant's arguments against the references individually, one

cannot show nonobviousness by attacking references individually where the rejections

are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.

1986).

DeMarcken teaches a method for generating travel requirements (col. 3, line 55-

col. 5, line 32) as explained in the rejection of claim 52, but does not expressly disclose

the generation of template rules. However, the development and customizing a

template of rules for a plurality of purposes is old and well known in the art, as

evidenced by Karch. (Karch col. 1, line 66-col. 2, line 6).

At the time of the Appellant's invention it would have been obvious to one of

ordinary skill in art to modify the method of DeMarcken with the teaching of Karch to

generate rule templates wherein values for a particular travel requirement template are

based on a candidate set of travel options. As suggested by Karch, one would have

been motivated to include this feature to provide an efficient rules system that can learn

and manipulate information, but does not result in significant degradation of

performance through the use of extensive amounts processing power (Karch; col. 1,

lines 38-42).

(G)   Appellant argues the Iyengar reference discloses multiple carriers as part of a

"user selectable query space," and not as part of values for a requirement template.

In response to Appellant's arguments against the references individually, one

cannot show nonobviousness by attacking references individually where the rejections

are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.

1986). The DeMarcken and Karch references have been relied upon in combination to

address the limitations of claim 54. The Iyengar reference discloses a system/method,

which accepts travel search parameters (i.e. particular air carriers, dates), then uses

this information to generate travel requirement templates, including the search

parameters such as particular carriers. (col. 21, lines 10-18; Figures 8, 28)

Furthermore, Appellant has not explained or defined how the claimed

"requirement templates" distinguish over the rules and template libraries used to

process search queries and to sort through the query results in the applied combination

of references.   In the absence of a clear distinction or definition of the Appellant's

claimed "requirements templates," the Examiner has given the term the broadest

reasonable interpretation and applied art accordingly.

Also, it should be noted that claim 55 is dependent from claim 54, which recites a plurality of limitations in the alternative. Insofar as the DeMarcken and Karch references address at least one of listed limitations (other than having templates for particular airlines), (see the rejection of claim 55, and DeMarcken: col. 3, lines 43-51; col. 17, line 20-col. 19, line 32 --in particular), the recited limitation of claim 55 need not be selected from the listing, and addressed with art.
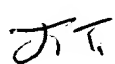
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Rachel L. Porter

Conferees:

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JOSEPH THOMAS
SUPERVISORY PATENT EXAMINER